

Appl. No. 10/539,662
Amdt. Dated March 28, 2007
Reply to Office Action of November 28, 2006

Attorney Docket No. 83363.0012
Customer No.: 26021

REMARKS

This application has been carefully reviewed in light of the Office Action dated November 28, 2006. Claims 1-8 remain in this application. Claims 1 and 8 are the independent Claims. It is believed that no new matter is involved in the amendments or arguments presented herein. Reconsideration and entrance of the amendment in the application are respectfully requested.

Foreign Priority

The foreign priority claim was not entered for not being filed during the time period set forth in 37 CFR 1.55(a)(1). In response, Applicant respectfully traverses this assertion.

According to 37 CFR 1.55(a)(1), any claim for foreign priority during the international stage of the PCT must be made, "during the pendency of the [international] application and within the time limit set forth in the PCT."

PCT 2004/000135, was filed on January 13, 2004, more than one year beyond the January 10, 2003 filing date of JP 2003-005157. The one year deadline to file the international stage PCT application in order to claim the benefit of JP 2003-005157 fell on Saturday, January 10, 2004. Therefore, the allowable time period to file was extended to Monday, January 12, 2004.

However, January 12, 2004 was the Japanese national holiday of Coming of Age Day, which is celebrated every second Monday of January, (See Wikipedia). Therefore, the PCT application was timely filed on the next working day, which was Tuesday, January 13, 2004.

Moreover, a certified copy of the foreign priority application was submitted on June 14, 2005, and is timely under PCT Rule 17.1(a) or (b).

Thus, PCT 2004/000135 contains a properly and timely filed priority claim to priority document JP 2003-005157, in accordance with PCT Article 8, PCT Rule 4.10 and 37 CFR 1.55(a)(1). Accordingly, the present patent application is entitled to claim priority to JP 2003-005157. Reconsideration is respectfully requested.

Declaration

On page 3 of the Office Action, the declaration was cited as defective for not adequately identifying the specification. In response, a new declaration in compliance with 37 CFR 1.67(a) will be submitted shortly.

Art-Based Rejections

Claims 1-4 and 8 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 6,013,084 (Ken); Claim 5 was rejected under 35 U.S.C. § 103(a) over Ken in view of U.S. Patent Application Pub. No. 2004/0034363 (Wilson); Claims 6 and 7 are rejected as obvious over Ken in view of Wilson and U.S. Patent Application Pub. No. 2004/0002732 (Teoh).

In response, Applicant respectfully traverses the rejections and submits that the claims herein are patentable in light of the clarifying amendments above and the arguments below.

The Ken Reference

Ken is directed to a vaso-occlusive coil 102 and stretch-resisting member 108. A hook 199 is connected to stretch resistant thread 193 and coil 191. The hook 199 is provided with a coil portion formed at an end portion of the coil 191 with an end of the coil with the hook melted to the stretch-resistant polymer 193 (*See Ken; FIG. 10, Col. 9, lines 29-51 and Col. 5, lines 10-18*).

The Wilson Reference

Wilson is directed to a vaso-occlusive coil 10 reinforced with a stretch resistant member 18 to improve safety during retraction of the coil. A loop 34 is attached to the coil (*See Wilson; Abstract, Paragraph [0030]*).

The Teoh Reference

Teoh is directed to a stretch-resisting member 108 containing links that may be in a twisting form (*See Teoh; FIG. 2C, 2D and paragraphs [0055]-[0056]*).

The Claims are Patentable Over the Cited References

The present application is generally directed to an indwelling implant for embolization.

As defined by independent Claim 1, an indwelling implant for embolization includes a coil composed of a metal and a substantially semi-spherical rounded head portion at the distal end of the coil. A loop is provided inside the coil from the head portion toward the proximal end portion of the coil. An axial extension controlling member composed of at least one wire material which is thinner than the metal wire material forming the loop is provided inside the coil by extending the member in the coil axial direction of the coil and fixing both ends thereof directly or indirectly to the proximal end portion after the member passed through the loop.

The applied references do not disclose or suggest the features of the present invention as defined by independent Claim 1. In particular, the applied references do not disclose or suggest, "an axial extension controlling member composed of at least one wire material which is thinner than the metal wire material forming said loop," as required by independent Claim 1.

Ken discloses metals suitable for the vaso-occlusive coil 102 and stretch-resisting member 108, including platinum (*See Ken; Col. 5, lines 10-18*). With regards to hook 199, Ken merely teaches the connection between stretch resistant thread 193 and coil 191 (*See Ken; FIG. 10 and Col. 9, lines 29-51*). The thickness of the coil 102 and hook 199 is not disclosed.

In contrast, Claim 1 requires the wire of an axial extension controlling member to be thinner than the wire of a loop. As disclosed in page 17, line 26 to page 18, line 3 of Applicants' specification, this feature provides the necessary strength and flexibility to achieve high operability. Ken does not disclose or suggest this feature. The ancillary references do not remedy the deficiencies of Ken.

Moreover, FIG. 10 of Ken provides a hook 199 with a coil portion formed at an end portion of the coil 191. The axial stretch-resistant thread 193 is introduced through the hook 199 having a coil. Therefore, when coil 191 extends, the hook 199 with the coil also extends. Furthermore, "[t]he end of the coil with the hook is then heated so that several turns of the exterior coil contact and are melted to the stretch-resistant polymer 193," (*see Ken; Col. 9, lines 40-42*). Consequently, the stretch resistant polymer is virtually fixed to the coil 191 at both a proximal end portion and a distal end portion, respectively. In this manner, Ken and the present invention provide different configurations, and accordingly, different functional effects.

Wilson discloses in paragraph [0030] and FIG. 4 and 5 that loop 34 is attached to the coil. Even if the hook 199 of Ken is combined with the loop of Wilson, the loop 34 connected to the axial stretchable member acts like a coil, as discussed above. Thus, Wilson does not remedy the deficiencies of Ken.

Moreover, as disclosed in page 24, lines 7-11 of Applicant's specification, since the axial extension controlling member is composed of at least one wire material thinner than the metal forming the loop, the axial extension controlling member will have a lower tensile rupture strength than the loop. Accordingly, the maximum load required for plastic deformation in the axial direction of the coil becomes equal to a tensile rupture strength of the axial extension controlling member in the axial direction of the coil. As a result, a high tensile rupture strength and a high flexibility of the entire indwelling implant can be obtained, as shown in Table 1.

In contrast, Ken, Wilson and Teoh provide a hook or loop connected to the coil that extends the coil when the tensile strength is applied to the whole coil. Therefore, the load required for plastic deformation in the axial direction of the coil is not equal to a tensile rupture strength of the axial extension controlling member in the axial direction of the coil.

Moreover, the loop shape of the present invention provides the advantage of impact absorption by a dimensional margin (*see Specification; Page 18, line 26 to Page 19, line 8*). For example, when a strong impact is applied in the axial direction of the metal coil, a dimensional margin is created by the deflection of the axial extension controlling member against the loop member.

In contrast, Ken discloses a stretch-resisting member 214 that is a coil which has difficulty in providing stretch-resistance (*see Ken; FIG. 1C*). As seen in FIG. 1A and 1B, the stretch-resisting member 108 is directly connected at both end portions of the coil and does not form a loop. Since the stretch-resisting member 108 of Ken is directly connected to the end portions of the coil 104, 106, 204, 206, respectively, Ken does not provide the impact absorption of the present invention.

Since the applied references fail to disclose, teach or suggest the above features recited in amended independent Claim 1, those references cannot be said to anticipate nor render obvious the invention which is the subject matter of that claim.

Accordingly, amended independent Claim 1 is believed to be in condition for allowance and such allowance is respectfully requested.

Applicant respectfully submits that independent Claim 8 is allowable for at least the same reasons as those discussed in connection with independent Claim 1.

The remaining claims depend either directly or indirectly from amended independent Claim 1 and recite additional features of the invention which are neither disclosed nor fairly suggested by the applied references and are therefore also believed to be in condition for allowance. For example, the applied references do not disclose or suggest the features of the present invention as defined by dependent Claim 2. In particular, the applied references do not disclose or suggest, "the axial extension controlling member and loop are composed of the same metal material as the coil." Ken does not disclose or suggest the material used to form hook 199 and therefore, cannot disclose an axial extension controlling member and a loop being made from the same material as the coil.

Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los

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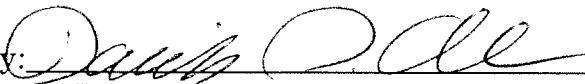
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Angeles, California telephone number (310) 785-4721 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

Date: March 28, 2007

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